



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1178; Project Identifier MCAI-2021-00986-R]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Canada Limited (Type Certificate Previously Held by Bell Helicopter Textron Canada Limited) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2020-20-06, which applies to certain Bell Helicopter Textron Canada Limited (now Bell Textron Canada Limited) Model 429 helicopters. AD 2020-20-06 requires repetitive inspections of certain cyclic and collective assembly bearings. Since the FAA issued AD 2020-20-06, the collective and cyclic bellcrank assemblies have been upgraded with corrosion resistant steel bearings. This proposed AD would retain some of the requirements of AD 2020-20-06 and depending on the inspection results, would require removing certain parts from service and installing the upgraded cyclic and collective bellcrank assemblies. This proposed AD would also require installing the upgraded collective and cyclic bellcrank assemblies on certain helicopters if not already installed, and would prohibit installing certain bellcrank assemblies. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Bell Textron Canada Limited, 12,800 Rue de l’Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1178; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the Transport Canada AD, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-1178; Project Identifier MCAI-2021-00986-R” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2020-20-06, Amendment 39-21262 (85 FR 60356, September 25, 2020) (AD 2020-20-06), for Bell Helicopter Textron Canada Limited Model 429 helicopters with a bellcrank assembly part number (P/N) 429-001-523-101, 429-001-523-103, 429-001-532-101, or 429-001-532-103 installed. AD 2020-20-06 requires within 12 months after the helicopter was manufactured or 30 days after the effective date of AD 2020-20-06, whichever occurs later, and thereafter at intervals not to exceed 6 months, disconnecting the forward ends of the collective control tube,

longitudinal stability and control augmentation system (SCAS) actuator, and lateral SCAS actuator and stowing the collective control tube and each SCAS actuator to prevent binding. AD 2020-20-06 requires slowly moving the cyclic fore/aft and laterally, and the collective up/down from stop to stop to determine if there is any roughness. If there is any roughness in the flight control system, AD 2020-20-06 requires, before further flight, replacing the six pivot bearings in the collective lateral bellcrank assembly and the longitudinal bellcrank assembly. Finally, AD 2020-20-06 requires inspecting each arm end bearing at the end of the collective, lateral, and longitudinal arm assemblies by rotating each bearing and ensuring each bearing rotates freely. If there is any binding in any arm end bearing or on the longitudinal bellcrank assembly, AD 2020-20-06 requires replacing each arm end bearing before further flight.

AD 2020-20-06 was prompted by Transport Canada AD CF-2016-11R2, dated October 18, 2017 (Transport Canada AD CF-2016-11R2), issued by Transport Canada, which is the aviation authority for Canada, to correct an unsafe condition for Bell Helicopter Textron Canada Model 429 helicopters equipped with a bellcrank assembly P/N 429-001-523-101, 429-001-523-103, 429-001-532-101, or 429-001-532-103.

Transport Canada advised that in-service reports show that bearings in the roof-mounted flight control bellcranks are adversely affected by precipitation. Pooling can occur at the forward portion of the roof, providing a source of contamination for bearings in the roof-mounted flight controls. Precipitation may reduce the effectiveness of the grease in the bearings, allowing corrosion to occur. This can result in intermittent restrictions, such as binding and roughness in the flight controls. Transport Canada also advised that an undetected corroded bearing could lead to restrictions in the collective, directional, or pitch control systems, resulting in difficulty controlling the helicopter.

Transport Canada AD CF-2016-11R2 required within 12 months after the helicopter was manufactured and thereafter at intervals not to exceed 6 months, inspecting the flight controls and replacing any discrepant bearings. If the helicopter's age exceeded 12 months, Transport Canada AD CF-2016-11R2 required the 12-month inspection within 30 days. Transport Canada AD CF-2016-11R2 also required, within 30 days, performing a functional check and replacement, if applicable, of the bearings if the

most recent functional check of the helicopter was performed with the alternate procedure of using a hydraulic test stand or if the inspection method was unknown.

Actions Since AD 2020-20-06 Was Issued

Since the FAA issued AD 2020-20-06, Transport Canada issued AD CF-2016-11R3, dated August 30, 2021 (Transport Canada AD CF-2016-11R3), which supersedes Transport Canada AD CF-2016-11R2. Transport Canada advises of new collective and cyclic bellcrank assemblies which have been upgraded with corrosion resistant steel bearings.

Accordingly, Transport Canada AD CF-2016-11R3 requires, for certain serial-numbered helicopters, within 12 months from the helicopter manufacture date, or for helicopters that have exceeded the age threshold of 12 months from the helicopter manufacturer date, within 30 days, and thereafter at intervals not to exceed 6 months, performing a functional check of the flight controls to detect roughness in the pivot bearings and binding of the collective, lateral, or longitudinal arm end bearings of the bellcrank assemblies. If any roughness or binding is detected, Transport Canada AD CF-2016-11R3 requires replacement of each affected bellcrank assembly before further flight. Transport Canada AD CF-2016-11R3 also requires, within 24 months, installing the upgraded collective and cyclic bellcrank assemblies and considers this action a terminating action to the recurring inspections. Finally, Transport Canada AD CF-2016-11R3 prohibits an affected bellcrank assembly from being installed on any helicopter.

FAA's Determination

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with Canada, Transport Canada, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA is proposing this AD after evaluating all known relevant information and determining that the unsafe condition described previously is likely to exist or develop on other helicopters of the same type design.

Related Service Information

The FAA reviewed Bell Technical Bulletin 429-18-58, Revision B, dated August 23, 2021 (TB 429-18-58 Rev B), which specifies procedures to upgrade certain part-

numbered bellcrank assemblies to the bellcrank assemblies that utilize the corrosion resistant steel bearings.

The FAA also reviewed Bell Helicopter Alert Service Bulletin 429-15-21, Revision C, dated August 23, 2021 (ASB 429-15-21 Rev C), which specifies moving the cyclic stick fore, aft, and laterally, and the collective stick up and down from stop to stop to detect deteriorated pivot bearings. ASB 429-15-21 Rev C also specifies inspecting to determine whether the bearings in the collective, lateral, and longitudinal arm assemblies rotate freely. If discrepant arm bearings are found, ASB 429-15-21 Rev C specifies contacting Bell Product Support Engineering to report the findings and replacing the discrepant parts with serviceable parts.

Proposed AD Requirements in this NPRM

This proposed AD would retain some of the requirements of AD 2020-20-06. This proposed AD would require, for certain serial-numbered helicopters, within 12 months after the helicopter was manufactured or 30 days after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 6 months, disconnecting certain parts, stowing certain parts to prevent binding, and moving the cyclic stick and the collective stick to inspect for roughness in the flight control system and binding in the collective, lateral, and longitudinal arm assemblies. If any of these conditions exist, this proposed AD would require, before further flight, removing certain parts from service and installing upgraded bellcrank assemblies.

This proposed AD would also require, for certain serial-numbered helicopters that do not have the upgraded bellcrank assemblies installed, within 24 months after the effective date of this AD, installing the upgraded bellcrank assemblies, which would provide a terminating action for the recurring inspections. Finally, this proposed AD would prohibit installing any affected bellcrank assembly on any helicopter.

Differences Between this Proposed AD and Transport Canada AD CF-2016-11R3

Transport Canada AD CF-2016-11R3 provides requirements if the most recent functional check was performed using a hydraulic test stand as an alternate procedure. This proposed AD provides no such alternate procedure. Transport Canada AD CF-2016-11R3 provides requirements for helicopters that have exceeded the age threshold of 12

months from the helicopter manufacturer date to complete the initial functional check within 30 days from the effective date of its AD. This proposed AD would require the initial inspection within 12 months after the helicopter was manufactured or 30 days after the effective date of this proposed AD, whichever occurs later. Transport Canada AD CF-2016-11R3 allows credit for the corrective actions of Part I if the initial functional check was accomplished prior to the effective date of Transport Canada AD CF-2016-11R3, whereas this proposed AD does not.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 64 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

Inspecting the cyclic and the collective bellcrank assemblies for roughness in the pivot bearings and binding in the collective, lateral, and longitudinal arm end bearings would take about 3 work-hours for an estimated cost of \$255 per inspection cycle.

Installing the upgraded collective and cyclic bellcrank assemblies would take about 18 work-hours and parts would cost about \$1,750 for an estimated cost of \$3,280 per upgrade installation.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2020-20-06, Amendment 39-21262 (85 FR 60356, September 25, 2020); and
- b. Adding the following new airworthiness directive:

Bell Textron Canada Limited (Type Certificate Previously Held by Bell Helicopter Textron Canada Limited): Docket No. FAA-2021-1178; Project Identifier MCAI-2021-00986-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-20-06, Amendment 39-21262 (85 FR 60356, September 25, 2020) (AD 2020-20-06).

(c) Applicability

This AD applies to Bell Textron Canada Limited (type certificate previously held by Bell Helicopter Textron Canada Limited) Model 429 helicopters, certificated in any category, with a bellcrank assembly part number (P/N) 429-001-523-101, 429-001-523-103, 429-001-532-101, or 429-001-532-103 installed.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 2700, Flight Control System.

(e) Unsafe Condition

This AD was prompted by new bellcrank assemblies, which have been upgraded with corrosion resistant steel bearings. The FAA is issuing this AD to prevent corrosion of the bearings due to pooling at the bellcrank assembly from precipitation in the forward portion of the roof structure. The unsafe condition, if not addressed, could result in restrictions in the collective, directional, or pitch control systems, and subsequent loss of helicopter control.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) For Model 429 helicopters serial number (S/N) 57001 through 57296 inclusive, within 12 months after the helicopter was manufactured or 30 days after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 6 months:

(i) Disconnect the forward ends of the collective control tube, longitudinal stability and control augmentation system (SCAS) actuator, and lateral SCAS actuator. Stow the collective control tube and each SCAS actuator to prevent binding.

(ii) Move the cyclic stick fore, aft, and laterally, and the collective stick up and down from stop to stop to determine if there is any roughness. If there is any roughness in the flight control system, before further flight, remove each pivot bearing P/N MS27646-41, each arm assembly bearing P/N MS27643-4, and each sleeve P/N 120-13-4A from service and install bellcrank assemblies P/N 429-001-523-101FM and 429-001-532-101FM; or 429-001-523-107FM and 429-001-532-107FM; or 429-001-523-107 and 429-001-532-107.

(iii) Inspect the collective arm assembly P/N 429-001-525-101, the lateral arm assembly P/N 429-001-527-101, and the longitudinal arm assembly P/N 429-001-530-101, by rotating each bearing and determining whether each bearing rotates freely. If there is any binding in any arm end bearing or on the longitudinal bellcrank assembly, before further flight, remove each pivot bearing P/N MS27646-41, each arm assembly bearing P/N MS27643-4, and each sleeve P/N 120-13-4A from service and install bellcrank assemblies P/N 429-001-523-101FM and 429-001-532-101FM; or 429-001-523-107FM and 429-001-532-107FM; or 429-001-523-107 and 429-001-532-107.

(2) For Model 429 helicopters S/N 57001 through 57296 inclusive, unless already accomplished by following paragraphs (g)(1)(ii) or (iii) of this AD, within 24 months after the effective date of this AD, install bellcrank assemblies P/N 429-001-523-101FM and 429-001-532-101FM; or 429-001-523-107FM and 429-001-532-107FM; or 429-001-523-107 and 429-001-532-107.

(3) As of the effective date of this AD, installing bellcrank assemblies P/N 429-001-523-101FM and 429-001-532-101FM; or 429-001-523-107FM and 429-001-532-107FM; or 429-001-523-107 and 429-001-532-107, constitutes a terminating action for the recurring inspections required by paragraph (g)(1) of this AD.

(4) As of the effective date of this AD, do not install any bellcrank assembly P/N 429-001-523-101, 429-001-523-103, 429-001-532-101 or 429-001-532-103 on any helicopter.

(h) Special Flight Permits

Special flight permits are prohibited.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, COS Program Management Section, Operational Safety Branch, Compliance & Airworthiness Division, FAA, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7330; email andrea.jimenez@faa.gov.

(2) For service information identified in this AD, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may view this referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(3) The subject of this AD is addressed in Transport Canada AD CF-2016-11R3, dated August 30, 2021. You may view the Transport Canada AD on the Internet at <https://www.regulations.gov> in Docket No. FAA-2021-1178.

Issued on January 4, 2022.

Ross Landes, Deputy Director for Regulatory Operations,

Compliance & Airworthiness Division,
Aircraft Certification Service.

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